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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hyun Sook Kim

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STAAS & HALSEY LLP

SUITE 700

1201 NEW YORK AVENUE, N.W.

WASHINGTON, DC 20005

EXAMINER

HECKERT, JASON MARK

ART UNIT

PAPER NUMBER

1792

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/811,853	Applicant(s) KIM ET AL.	
	Examiner JASON HECKERT	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) 10-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-2, 4-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 now contains the language of cancelled claim 3 specifically, "pumping water in the rotary tub to outside of the rotary tub until the inertial rotation of the rotary tub terminates." However, based on the figures and specification, a pump is not attached to the rotary tub. Water in the rotary tub is only removed by centrifugal force during rotation. It is flung into the water tub, and then pumped from the water tub to outside the water tub. Thus, the examiner feels that claim 1 is not enabled because a means does not exist to pump the water from the rotary tub to outside of the rotary tub. The following rejection assumes that the applicant intends for the claim to recite -- pumping water in the water tub to outside of the water tub until the inertial rotation of the rotary tub terminates.-- Note that "the water tub" has not yet been defined in the claims. Applicant can incorporate such limitation as they see fit. Additionally, the applicant should amend the specification to clarify that water is pumped from the water tub, not the rotary tub.

Response to Arguments

2. Applicant's arguments filed 4/11/08 have been fully considered but they are not persuasive. Applicant has amended the claims to point to water being pumped out of

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the system while the drum is inertially rotating. Orszulik discloses pumping the water out of the sump 26 located in the washtub beneath the drum so as to drain the machine. Therefore, draining the water present in the bottom of the sump at the end of the spin cycle is known in the art. One skilled in the art would see the benefit of saving time by draining the rinse water as soon as possible so as to proceed to the next washing step as soon as possible, thereby completing an entire wash cycle as soon as possible. Additionally, no more water will be removed from the clothes at the end of the spin cycle, or when the drum is no longer rotating, so one skilled in the art would find this to be an appropriate time to terminate operation of the pump so as to prevent pump starvation and noise.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1-2, 4-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Orszulik in view of Oh et al and Ruhl et al. Orszulik discloses a rinsing method for a drum washing machine comprising spinning a rotatable drum 16 after a washing step and introducing water to the interior of the drum via a spray nozzle 36 while it is spinning. Orszulik discloses that the spraying cycle can be as short as 5 seconds and that the drum can continue to rotate at various speeds for longer than that. In one embodiment (page 12), the drum is rotated at a first speed for 2 minutes while the rinse

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water is sprayed on clothes, and then accelerated to a second rotational speed while the water is not sprayed on clothes, so that the rinse fluid can be drained from the clothes in the rotatable drum. Therefore, the time period of spraying water is shorter than the time period of rotating the drum until termination. Orszulik discloses pumping the water out of the sump 26 located in the washtub beneath the drum so as to drain the machine. Orszulik also states that after 2 minutes at the second rotational speed, the cycle is continued, so that more water is sprayed on at a lower speed, and then drained at a higher speed. Hence, Orszulik discloses an intermittent spin-drying operation. In regards to claims 5-8, Orszulik discloses on page 9 "...if the first rotational speed is constant, the introduction of rinse water to the drum 16 can commence before the first rotational speed is reached and, as a further alternative, the introduction can continue after the drum speed increases above the first rotational speed." Therefore, according to Orszulik, the spraying of water can also occur during a time when the rotational speed of the rotatable drum rises, or more specifically, water can be introduced for a first time at or before the constant speed, and then continue for more time when the rotational speed rises after achieving the constant speed. Orszulik also discloses a control mechanism 10 that controls the amount of spray water introduced into the rotatable drum over a period of time as little as 5 seconds or as great as 2 minutes. Hence, Orszulik discloses the use of preset times. Finally, Orszulik discloses the use of a final spin step 112 occurring after the consecutive and repetitive rinsing steps 106 and 108. Orszulik does not disclose stopping operation of the motor. Oh et al. discloses that it is desirable to change the speed of the drum so that the water travels through the

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clothing at different angles. This achieves a better rinse (col. 4 line 6 to col. 5 line 12).

One of ordinary skill in the art knows that stopping the motor would result in a change of speed, thus providing the result rendered obvious by Oh et al. of allowing water to flow through the clothes at different angles. Furthermore, substituting one known stopping means, such as breaking, for another, such as shutting off the motor, provides the same predictable result of a reduction in speed. Thus, it would have been obvious at the time of the invention to modify Orszulik, and stop operation of the motor which would provide the predictable result of a change in speed therefore allowing water to pass through the clothes at different angles, as disclosed by Oh et al., in order to provide a more thorough rinse.

5. Orszulik discloses pumping the water out of the sump 26 located in the washtub beneath the drum so as to drain the machine. Therefore, draining the water present in the bottom of the sump at the end of the spin cycle is known in the art. One skilled in the art would see the benefit of saving time by draining the rinse water as soon as possible so as to proceed to the next washing step as soon as possible, thereby completing an entire wash cycle as soon as possible. Additionally, no more water will be removed from the clothes at the end of the spin cycle, so one skilled in the art would find this to be an appropriate time to terminate operation of the pump so as to prevent pump starvation and noise. Ruhl discloses that there is often too little water in the sump or tub during the spin cycle thus creating such starvation and noise (paragraph 4). Ruhl proposes operating the pump intermittently during the spin operation so as to remove the water, yet not operate it when there is no water (paragraphs 17-19). One skilled in

the art realizes that at the end of the spin cycle, no more water is removed from the clothes, and thus operation of the pump is no longer needed. It would have been obvious at the time of the invention to modify Orszulik and terminate operation of the pump after water is removed during the spin-drying cycle, as disclosed by Ruhl, in order to prevent pump starvation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON HECKERT whose telephone number is (571)272-2702. The examiner can normally be reached on Mon. to Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/

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Supervisory Patent Examiner, Art
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JMH